Chapter 1

Making sense of research in higher education

David Plowright

I was meeting with E about the problems that postgraduate researchers experience when carrying out their research. E was a well-respected and eminent professor from Stellenbosch University. I had known him for about four years. We both had an interest in supervising and supporting postgraduate researchers undertaking masters and doctoral study.

'You've asked a very interesting and,' I added pointedly, 'a very important, question. Like all good questions, it raises a whole raft of other questions and issues.'

E nodded thoughtfully. 'And the answer?' he asked.

'Well, the question was about whether or not we can collect qualitative data in an experiment? Of course, as you know, the methodology textbooks will answer that we should collect *quantitative* data and not *qualitative* data in an experiment.'

'Yes,' he nodded, 'but I suspect you've got a view about that?'

'Funny you should say that!' I laughed. We had spoken before about supporting postgraduate researchers in South Africa. We were aware, of course, of the academic and policy issues associated with postgraduate programmes of research, especially at doctoral level. For example, South Africa currently aims to increase its PhD numbers from 1,421 in 2010 to 5,000 each year by 2030 and increase the number of academics with PhDs from 34% to 75% (National Planning Commission, 2011). This is, of course, a mammoth task but unlikely to be achieved. More tellingly, there is evidence that private-sector employers in South Africa believed that a PhD did not have much relevance to the world of work (Treptow 2013). This suggests that it may be time to introduce a professional doctorate to sit alongside PhD programmes in South African universities. A professional doctorate would be aimed at evaluating and improving practice in the workplace and be more relevant to the needs of both commercial and not-for-profit organisations in South Africa.

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My main concern, however, was in how we supported researchers to develop their research skills. After all, research methodology was the one topic or subject that all research had in common, whatever its purpose or focus. The majority of postgraduate researchers struggle, however, when it comes to the empirical research in their studies: not just carrying out the research but, more seriously, how they conceptualise and articulate their understanding of the research process.

'We need to address how we think, talk and write about research,' I argued.

'Yes, I would agree with that,' E replied, 'but the textbooks don't always seem to be of much help.'

'And I would agree with *that*!' I exclaimed. I had come to the conclusion that most, no that was unfair, a *lot* of what was written in methodology publications was simply nonsensical. It just didn't make sense. It wasn't coherent. It didn't reflect what actually happened when we carried out empirical research. Explanations were not intellectually coherent and often they were not even meaningful.

'So what, in your view, are the problems with research methodology or rather the explanations we read in the text books?' E asked. 'Personally, I think at times we don't do postgraduate researchers any favours by referring them either to the methodology textbooks or published research. So, what can we do?'

In our previous conversations, E seemed to hold the same reservations as I did about methodology.

'Well,' I said, 'in my view, there are what I call the mythologies of methodology'. Despite the catchy phrase, I was becoming increasingly concerned about how research really was based on a number of disturbing inconsistencies and misleading ideas. In other words, on a mythology.

'This mythology,' I said, 'and its perpetuation, are the source of many problems that postgraduate researchers experience when they try to make sense of research in higher education.'

We paused a moment.

'The mythologies of methodology', he reflected. 'Yes, I like that. But what are they?'

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'Maybe the first and most important point to make', I said, 'is to ask why we still use the distinction between quantitative and qualitative research?'

E thought about the question and then said, 'Because those are the two types of research we use when we…well…when we do research.'

I wondered if he thought my point was rather pointless. But I persisted. 'And that's the biggest myth of all, the view that research is either quantitative or it's qualitative.'

I believed that the Q words, as I liked to refer to them, were the biggest problem we had in research. They were the route, and the root, of all evil when it came to understanding the research process. The source of the complaint made by Herman (2010: 504) that research in South Africa is highly conservative in both methodology and epistemology was, in my view, partly because of the Q words.

E nodded his head slowly. 'So, what's the problem with quant…I mean, the Q words?'

I suspect E was playing devil's advocate to some extent. I was pretty sure he was just as uncomfortable with the terms as I was, given his knowledge of the difficulties that postgraduate researchers experienced.

I said, 'The Q words, as labels that represent concepts and research activities, are not very helpful when it comes to describing the characteristics of the realities and actualities of the research process. In fact, the labels are misleading. Also, at times, they're just downright wrong, or inaccurate.'

'Yes, I agree with that. Students seriously struggle with understanding those different paradigms'.

'They're ubiquitous', I added. 'Pick up any methodology or methods text book and, hey presto, it's all about the Q words! But they don't actually represent coherent strategies or approaches to research.'

E smiled. 'In the past, you've argued that any statement or explanation should always include an example, more than one if possible. So I can't let you get away

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with just stating that they're not a coherent approach. Can you give some examples of why you think that?'

'Yes, you're right,' I replied. I hadn't forgotten about my self-imposed rule. But where do you begin with the mammoth task of dismantling the traditions and conventions of research that draws on the Q words? Let alone put together a structure and approach that provides a meaningful and, above all, a usable alternative?

'It's difficult to know where to start but I'll have a go,' I said. 'First, I think we have to bear in mind that each of the two paradigms, described as qualitative and quantitative, or perhaps a better word is domains, is associated with different characteristics. The nature of the characteristics identifies the concepts and activities that are deployed in each domain. So, for example...'

I paused here, looked at E with raised eyebrows and smiled. He nodded in appreciation.

'Traditionally, quantitative research…' I had to use one of the Q words. Sometimes, because of their grip over the research process and their widespread use, there was no getting away from using the terms. 'Quantitative research is seen as being theory-informed, developing hypotheses that are tested deductively through deploying a scientific approach using the quantitative method of experiment. This enables the collection of interval and ratio data created through counting and measuring. Data are analysed statistically in order to generalise from a random sample to a population.'

'That seems to make sense, according to the methodology textbooks. How would you characterise qualitative research?' E asked.

'Qualitative research,' I replied, 'is traditionally and conventionally concerned with theory-building through induction and deploys naturalistic, ethnographic-type methods of data collection such as case study and naturalistic observation. The purpose is to collect nominal and ordinal data based on categorising and ranking. These types of rich, narrative data are analysed thematically in order to describe and understand the experience of the particular cases under study.'

'That sounds very convincing.'

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'But it's not!' I almost shouted. 'Not at all! That's the problem. Research based on the Q words has been around for so long, with no-one challenging their use, that we've come to accept them as being the norm. Using the Q words doesn't actually provide any real help to make sense of research in higher education. Or anywhere else for that matter.'

'So, what's the problem?'

'It's about expectations and the assumptions we make. As soon as we state that such-and-such research is, say, qualitative then that closes down the choices about what we believe we can do. About what we are supposedly *allowed* to do. But what I've just said about the characteristics of research using the Q words only touches the surface. There's more to it than that.'

Unfortunately, we didn't have the time to discuss all the, even well-known, characteristics that are associated with the two types of research. I explained to E that I'd written a more detailed critique in a forthcoming chapter (Plowright, in press 2017) in a methodology text aimed at carrying out workplace research.

I resumed my explanation. 'Let's look at two important elements of carrying out empirical research. Methods of data collection and case selection.'

'Okay, sounds a good place to start,' E said.

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'How often do we read that there are qualitative and quantitative methods of data collection? How often have you said that to your students? But I now tell my students that there's no such thing as qualitative or quantitative methods. That's part of the legacy of the Q words. So, for example, in a questionnaire survey open questions are frequently used as well as closed questions. Yet postgraduate research reports often describe this kind of research as a quantitative method, sometimes as qualitative.'

'So, some contradictions here?'

'Yes, definitely,' I agreed. I went on, 'It's similar with an interview schedule. The inclusion of closed questions generates quantitative or numerical data that can be analysed using an appropriate statistical test. At the same time, however, the

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schedule may contain open questions giving the respondent the opportunity to provide a narrative. So, is that qualitative or quantitative research?'

I went on to explain that I believed there were three different generic but related methods of data collection: observation; asking questions and artefact analysis.

'The important point here is that all three methods can collect both qualitative and quantitative data and therefore belong to both domains of research. We have to ask, therefore: are these qualitative or quantitative methods? More importantly, should we even describe research as qualitative or quantitative?'

So, rather than continuing to deploy the Q words to describe research, we need an alternative approach. E interrupted my thoughts. 'You mentioned case selection earlier?'

I nodded. 'Yes, that's another difficult area. How often do we read that a case study is a qualitative method?'

'I guess you're going to tell me something to the contrary!'

'Exactly, case study is neither a method nor is it qualitative! Methods are about data collection using observation, asking questions and artefact analysis.'

'And qualitative?'

'As soon as you locate case study as a qualitative method you rule out any opportunity to generate quantitative data as part of the research.'

I explained further. 'Let's say your case study is a university department with twenty academic members of staff: twelve females and eight males. See, we've already started using quantitative data! We could convert the figures to percentages so we're now using statistical analysis. Let's say that we ask each participant to complete a questionnaire, which includes mainly closed questions. This will generate quantitative data. So why then do we refer to case study as a qualitative method? Another myth of methodology!'

E looked intrigued. 'So, out of interest, how *would* you describe a case study?' he asked.

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I explained that according to Hammersley (1992) and Plowright (2011) case study is one of three data source management strategies. The other two are experiment and survey. All are concerned with the allocation of the cases to the groups in the research and how natural the groupings are.

'Yes, I see,' said E. He went on, 'But how, therefore, should we conceptualise the research overall? Especially if we no longer use the Q words? Are you going to suggest that we should be using a mixed methods approach? Because, of course, that's seen as a third paradigm that overcomes the schism of positivism and interpretivism.'

'Yes and no!' I replied. We both laughed since we were both aware of the problems associated with the claims that mixed methodologists make.

'Mixed methods, NO; an integrated methodology, YES!' I said, because mixed methods, despite its benefits, still draws on the Q words. So, according to Symonds and Gorard (2010), it can actually reinforce the binary positioning of the qualitative and quantitative paradigms. There is also empirical evidence from Plowright (2013) that postgraduate researchers have mixed views about whether or not mixed methods helps them understand the research process.

'Maybe you could say more about an integrated methodology?'

'Yes, of course,' I replied enthusiastically. We had at last got on to my favourite subject! This was the FraIM, which stands for "frameworks for an integrated methodology". It's explained in a fair amount of detail in Plowright (2011) which was mentioned earlier in our conversation.

Research using the structure of the FraIM as the overall design starts with the main research question which is always embedded within a number of different contexts. These can include professional, organisational, policy, national and theoretical contexts. Undertaking empirical research requires decisions to be made about the sampling strategy as part of the overall data source management consisting of case study, survey and experiment. This enables the three generic methods of observation, asking questions and artefact analysis to be deployed either singly or in combination with each other to collect narrative and/or numerical data. The data are analysed mathematically and/or narratively to provide evidence that supports

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any claims made about the cases and to arrive at logically valid conclusions or answers to the research question. The aim is to design and implement warrantable empirical research that is rigorous and systematic (Plowright, in press 2016). But there's no mention or reference to the Q words. The terms and the concepts they represent are redundant.

'Can you say more about how you think the FraIM is appropriate for our needs here in South Africa?'

'Yes,' I replied, 'it is highly appropriate for both applied and workplace research whose purpose is the evaluation, development and improvement of professional practice in an identified location and context. It is the ideal design for research carried out in South Africa as the basis of postgraduate programmes of study that attract professionals interested in research as a basis for transformation and development in a wide range of organisations.

'Even more importantly, the FraIM rejects the Q words with all their associations and long pedigree. It generates supporting evidence to arrive at answers to research questions.'

I then showed E the integrated matrix.

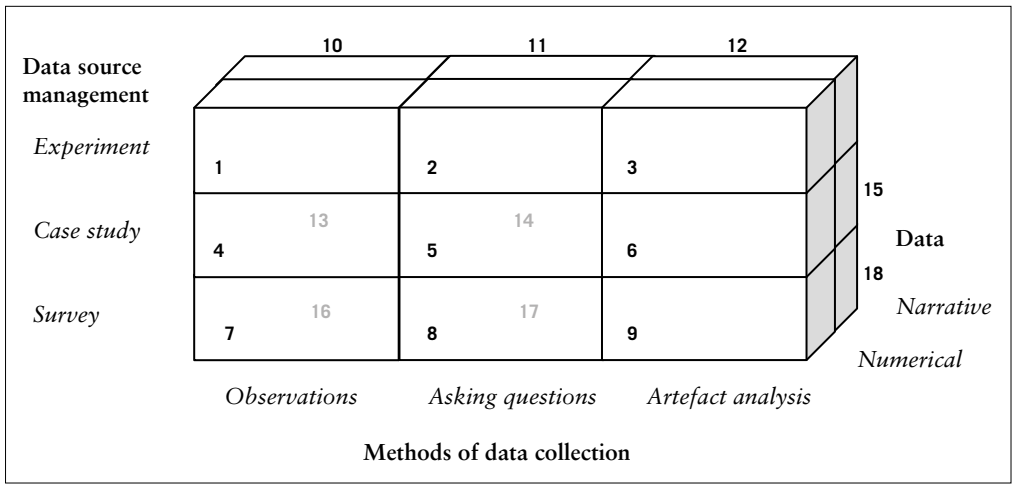

Figure 1.1 Integrated Matrix (Source: Plowright 2011:19)

'Rather than there being only two approaches to undertaking empirical research, that is, qualitative and quantitative,' I explained, 'the integrated matrix highlights

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the possibility of deploying eighteen different strategies. Each can be used on its own or in different combinations with each other.'

I went on, warming to my subject. 'For example,' I said, 'imagine a research project that explored the use of different teaching materials to portray gender. Applying the matrix, we could use experiment as the data source management. Purposively selected participants are allocated to two groups. Group 1 reads through a written vignette that tells a brief story depicting the experiences of a fictitious character, Alex, who is referred to as she/her. Group 2 reads the same vignette but Alex is referred to as he/him. The method of data collection involves asking the two groups to write a narrative description of the fictitious character. Common themes are identified within each group and any differences between the two groups are compared.

'The investigation, therefore, is placed firmly in cell 17 of the integrated matrix: Experiment and Asking Questions and Narrative.'

E looked pleased. 'So, that answers my original question at the start of our conversation?'

'Yes, absolutely! Using the FraIM is a liberating and creative experience. It's ideal for research that evaluates and contributes to solving problems identified by a researcher and applied to the workplace. It provides a level of flexibility that at the moment is missing from the usual traditional approaches to research.

'It means we can carry out research that produces useful and usable knowledge. The research is framed by an easy-to-understand structure. Where necessary, it can be informed by theory through drawing on an appropriate conceptual framework or simply be of a practical nature aimed at addressing a workplace issue. Above all, it avoids the Q words and provides a more integrative and holistic perspective on the research process.'

I knew that there were many benefits to deploying the FraIM as the research design for the structure of an enquiry or investigation. It avoided use of the Q words and acted as a liberating influence on how we think about, talk about and write about the process and the practicalities of undertaking empirical research. Perhaps most important of all, I concluded, is that it would help to challenge the mythologies of methodology and also help to make sense of research in higher education.

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E nodded enthusiastically and said, "Something to bear in mind for the future development of doctoral-level studies in South Africa?'

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